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A PRELIMINARY ANALYSIS OF THE VISIT RATES OF PATIENTS IN A MILITARY FAMILY PRACTICE HEALTH CARE PROGRAM

Frank Marchman Perry

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THESIS

A PRELIMINARY ANALYSIS OF THE VISIT RATES OF PATIENTS IN A MILITARY FAMILY PRACTICE HEALTH CARE PROGRAM

by

Frank Marchman Perry

September 1975

Thesis Advisor: R. W. Butterworth

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A Preliminary Analysis of the Visit Rates of Patients in a Military Family Practice Health Care Program

by

Frank Marchman Perry
Captain, United States Army
B.S., United States Military Academy, 1967

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN OPERATIONS RESEARCH

from the

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I. INTRODUCTION

In the days of the general draft, the military services were able to induct qualified medical personnel as needed to support the Military Health Care programs. As the draft ended, however, the military was force to compete for the available medical personnel resources and to reevaluate its medical programs. These events accelerated the services' examination of different methods of health care delivery that would provide at least the same quality of care as previously available while constrained by the available resources.

Two such tried programs are in progress at Fort Ord, California. In the Acute Minor Illness Clinic (AMIC), paramedics perform the initial categorization of patients' illnesses and treat minor cases. This is a modified version of the General Medical Clinic type health care which most military patients are used to. The Family Practice Clinic (FPC) attempts to establish a continuing doctor-patient relationship by providing for selected families, a physician who handles all routine care. This thesis is a preliminary analysis of the Family Practice mode of care.

In Part II of the thesis the motivation for and the objectives of the thesis are discussed. The establishment and operation of the North Fort Ord Family Practice Clinic of the Silas B. Hayes Army Hospital is also briefly discussed.

Part III outlines how the sample of patients to be used for the analysis was selected and how the actual data on these patients was collected and organized. The analysis of the data and results are then discussed. Conclusions and recommendations for future work in this area are offered in Part IV.

II. BACKGROUND

A. NORTH FORT ORD FAMILY PRACTICE CLINIC

1. History

In 1971 a seminar was held on ambulatory health services and led to the recommendation that "Family Practice Clinics be established to provide primary and comprehensive care at appropriate military installations." [1]. The clinics were to be staffed by Family Practice staff physicians and residents. These family practitioners are trained in pediatrics, obstetrics-gynecology, internal medicine, surgery, and other specialties [2]. The key to the success of Family Practice is the continuity of care--the family member sees the same doctor for all problems (in theory, from birth to death). When necessary to do so, the doctor admits his patients to the hospital, prescribes their care while they are confined, and refers them to specialists when appropriate.

The Family Practice residency at Silas B. Hayes Army Hospital (SBHAH) opened on 1 January 1973, with four residents. Meanwhile, portions of the old hospital near the Patton Park housing area were being renovated and remodeled for what would become the North Fort Ord Family Practice Clinic (NFPC). After the buildings were readied, appropriate staffing was obtained and the first patient was seen on 31 July. By September 1973 this "community based" clinic was in full operation.

2. Clinic Operations

The North Family Practice Clinic differs from the Family Practice Clinic at the Hospital in that it is staffed by physicians already trained in Family Practice. Each doctor at the clinic serves as the primary physician for a select panel of families. Families are scheduled to see their own physician if at all possible. However, the other doctors in the clinic do fill in when necessary. When a physician is transferred, his replacement generally assumes patient care responsibility for his panel. New families are added to the clinic as other families leave or additional doctors arrive. The clinic has its own pharmacy, laboratory, and X-ray facility in order that the majority of the patients' problems and needs can be handled in the clinic area. This is very important since the clinic is some distance from the hospital and the hospital support facilities.

The North Family Practice Clinic is one of seven so-called primary clinics at Fort Ord. The others are: the Hospital Family Practice Clinic, the Acute Minor Illness Clinic (AMIC), the Internal Medicine Clinic (IM), the Emergency Room (ER), the Obstetrics-Gynecology Clinic (OB-GYN), and the Pediatrics Clinic (PED). The General Medicine Clinic (GMC) was replaced by the Acute Minor Illness Clinic during the time period of this study; therefore, data from the two will be grouped together. The AMIC/GMC and FP Clinics are the clinics to which most patients are expected to initially take their medical problems. However, patients can go to any of the Primary

Clinics for an initial visit if they feel it necessary or appropriate. Because family practitioners are trained in all the primary areas of care, it was anticipated that the Family Practice Clinics would be able to provide a high percentage of the total health care required by its patients.

B. OBJECTIVES OF THIS THESIS

1. Motivation

The military services are all interested in the outcome of the various pilot medical programs being tried at different military bases. At Fort Ord, California, the Health Care Studies Unit has been directed to do the data collection and analysis involved in comparing certain aspects of the different mode of health care delivery (AMIC and FPC) being practiced at the Silas B. Hayes Army Hospital. The general operations of the AMIC and FPC modes are different in the following way. The doctors and paramedics in the AMIC see a great many patients daily and do not attempt to establish a continuing doctor-patient relationship. On the other hand, the FPC doctors have their own patients and are expected to handle the majority of their patients' problems. It was felt by the author that if certain assumptions were made about the data that was available for study, it would be possible to get a reasonable picture of how, how much, and by whom the medical care is being provided to the patients utilizing the two different health care modes. The author did not attempt to determine the quality of care being provided. Discussions of the various aspects of the two modes of care with members of the Health Care Studies Unit and Family

Practice Clinic doctors led to the following objectives and assumptions.

2. Objectives and Assumptions

The first objective of this study was to compare the visit rates of a sample of patients of a Family Practice Clinic to determine if there was any real change in the clinic utilization patterns when the patients went from the AMIC/GMC mode to the Family Practice Clinic mode. It was assumed that the number of visits patients made to the SBHAH would be a good proxy variable for the amount of Health Care required by the patients, and required of the available medical resources.

The second objective was to produce a pattern of medical clinic utilization from the first analysis that could be used by hospital administrators in allocating their resources when making clinic changes such as the establishment of a Family Practice Clinic. It was assumed for this objective that, first, the general composition of the sample producing the pattern could be determined, and that the composition of the patient population in the area in which the pattern was to be applied could also be determined. Secondly, it was assumed that hospital administrators could determine from clinic work reports and other available documentation what resources (lab work, X-rays, medicines, etc.) were required for an "average" visit to a particular clinic.

The third objective was to analyze the distribution of care in the "before" and "after" periods. As was discussed in the section on the Family Practice Clinic, there are two

types of clinics, primary and specialty. Again using the visit frequency as a proxy variable for the amount of care provided, the distribution of care between the Family Practice, primary, and specialty clinics was determined. In accomplishing this objective, the data on the referrals of patients from one clinic to another was also analyzed.

In the final portion of the study the sample was grouped by age and sex, and by rank and duty status. This portion was primarily for more information on the sample since the sex and age group stratification of the visit rate data was accomplished for large groups.

III. DATA ANALYSIS

A. SAMPLE SELECTION AND DATA COLLECTION

1. General

Since this thesis is a preliminary effort, it was decided to use as large a sample of patients as was practical or available to give statistical confidence to the results. The large sample would also allow the use of the normality assumption when doing certain statistical tests and calculations. From the objectives it was obvious that, if possible, the patients in the sample should be representative of the population at Fort Ord. It was also desirous to keep the data collected on each patient in the sample simple and applicable to the study, but at the same time of sufficient detail for more expanded future studies.

2. Patient Sample Selection

The original plan devised by the Health Care Studies Unit for their own analysis called for the structuring of two well-balanced, identical samples of patients. The first group would be composed of a mix of the patients from the Family Practice Clinic while the second group (control group) would be matched demographically in every way possible except that they would not be members of the Family Practice Clinic. This plan was determined to be infeasible because of the impossibility of getting two well-balanced, identical groups without moving persons from one health care mode to another when such

movements were not an available option. Finally it was decided that each individual in the sample would be his own control, i.e., the sample would be limited to individuals who had been under both modes of health care at Fort Ord. A quick screening of the records available showed that in order to get a large sample the criteria for selection would be the following:

a. The individual had been under a medical care mode other than Family Practice at Fort Ord for at least a year prior to his date of acceptance to the Family Practice Clinic (the "before" period) and

b. had been a member of the Family Practice Clinic for at least a year since his date of acceptance (the "after" period). There was no requirement for the individuals in the sample to have utilized any of the clinics available during the two-year period (thus individuals with no medical problems were included in the sample). The date an individual was accepted to the Family Practice Clinic was the base date for all data collected. The time from acceptance date until the date of the individual's first visit to the Family Practice Clinic was termed the transition period. Data related to the transition period is being used by the Health Care Studies Unit in some of its research. For this thesis the transition period and the individual's actions during that period were treated simply as part of the overall Family Practice picture. This action carries with it the implicit assumption that all individuals accepted to family practice membership knew of that acceptance and either had no need for a first visit, or chose

for whatever reason not to utilize the Family Practice Clinic.

This criteria produced a sample of over 950 patients for whom medical records were available. As military families spend more time in the same locale through stabilized tours of duty and as the period of existence of the Family Practice Clinic increases, it may be possible to structure a sample with a three- or four-year time base.

3. Data Collection

Having determined who was to be in the sample, it was now a matter of determining what data would be necessary to obtain the previously stated objectives. The first thing of interest was general data about the sample itself. At the onset of the Family Practice Clinic's operations, the Health Care Study Unit had started collecting what was called Baseline information on all families who applied for membership to the Clinic. This was a very comprehensive effort and included demographic information on the sponsor, and the sponsor's spouse and family. This was accomplished through the use of a detailed questionnaire (Appendix C). It was determined that this data would be sufficient for determining the age/sex composition of the sample.

Upon enrollment into the Clinic, each individual was assigned a patient identification number (ID) that consisted of the sponsor's social security number and a two-digit prefix that identified each member of the sponsor's family. The ID then uniquely identifies each member of the Family Practice Clinic.

The prefixes are:

20	Sponsor	40	Sponsor's mother
30	Spouse	45	Sponsor's father
50	Mother-in-law	55	Father-in-law
01	First child	02	Second child
03	Third child	60	Other

Some of the Baseline data was collected by the Health Care Studies Unit and coded and punched into computer cards for use in creating a master file. The following is a list of items which were used in this thesis and by the Health Care Studies Unit.

ITEM	CARD COLUMNS (inclusive)
SOCIAL SECURITY NUMBER	1-9
GRADE	10-11
MILITARY DUTY STATUS	12
MARITAL STATUS	13
FAMILY MEMBERS IN AREA	14-15
NUMBER OF CHILDREN	16-17
SPONSOR'S	
SEX	18
YEAR OF BIRTH	19-20
RACE	21-22
RELIGION	23-24
EDUCATION	25-26
SPOUSE	
SEX	27
YEAR OF BIRTH	28-29

RACE	30-31
RELIGION	32-33
EDUCATION	34-35
CHILDREN	
1st	
SEX	36
YEAR OF BIRTH	37-38
ETC. FOR UP TO 8 CHILDREN	39-59
OTHER DEPENDENT	60
SEX	60
CODE NUMBER	61-62
YEAR OF BIRTH	63-64

The coding sheet is at Appendix C.

The next problem was that of collecting data on visit rate and referral rate. The Health Care Studies Unit had devised encounter forms for the Family Practice Clinics for the purpose of collecting data on each patient seen by each health care provider (doctor, nurse, paramedic, etc.). The encounter data collection is a continuing real time data collection effort [3], and will probably be extremely useful in detailed studies of the clinics that are participating. However, for this effort, the encounter data was not appropriate since it was not being collected by all of the clinics and was generally not available for the earlier portion of the desired time periods.

Therefore, it was decided to use a complete two-year period chart review of the medical records of all the patients

in the sample. The review was conducted by Army enlisted personnel of the Health Care Studies Unit. The acceptance date (month and year) for each individual in the sample was used as a reference point in his records from which to review the activities the year prior to and year after the acceptance date as previously discussed. The review of the charts produced a count of the number of visits to the different clinics during the appropriate period. The information on referrals from one clinic to another was also recorded, coded (Appendix C), and finally punched onto cards to create the data base for the study. An example may help explain the procedure.

Assume that Capt. A.B. Jones is in our sample. During the year prior to his acceptance to the Family Practice Clinic his medical records reflect that he went to the AMIC for a sore back and was referred from there to the Orthopedic Clinic. He went to the Orthopedic Clinic two times (two different dated entries in his records) and was referred from there to the Physical Therapy Clinic where he went five times. If this was the total of the entries in Capt. Jones' records for the year "before," the visit/referral part of his chart review would show

Fm	To	#Visits
99	3	1
3	18	2
18	20	5

The clinics were abbreviated and coded as follows for ease in data manipulation:

CODE	AB	CLINIC	CODE	AB	CLINIC
1	FPH	= FP-HOSPITAL	14	NM	= NUCLEAR MED
2	FPN	= FP-NORTH	15	OT	= OCCUP THERAPY
3	AMIC	= AMIC/GMC	16	OPHT	= OPHTAMOLOGY
4	ER	= EMERGENCY ROOM	17	OPTO	= OPTOMETRY
5	IM	= INTERNAL MED	18	ORTH	= ORTHOPEDICS
6	OBY	= OB-GYN	19	PE	= PHYSICAL EXAM
7	PED	= PEDIATRICS	20	PT	= PHYS THERAPY
8	ALLY	= ALLERGY	21	PODY	= PODIATRY
9	DENT	= DENTAL	22	PM	= PREV MED
10	DERM	= DERMATOLOGY	23	PSYC	= PSYCHIATRY
11	ENT	= ENT	24	SURG	= SURGERY
12	MH	= MENT HYG/SOC WK	25	UROL	= UROLOGY
13	NEUR	= NEUROLOGY	26	OTHR	= OTHER

Because the enlisted personnel who did the chart review were not medically qualified, they were not required to interpret what they read. In other words, they were not to determine why an individual was referred to a particular clinic, nor were they to determine, once he was referred, whether all subsequent visits were for the same reason. They were instructed, however, to count a referral only if the patient did in fact go to the clinic to which he had been referred.

Some of the possible errors in the data collection procedure will now be discussed. First, it would be possible that a patient could be referred from one clinic to another for a particular reason for one visit, then continue to go to that clinic for other problems that were not the subject of

the original referral. By hospital procedure, all specialty clinics (except Optometry) require that the patient be referred to them from one of the primary clinics before the patient will be seen. However, clinics do not turn sick patients away. It is also possible that a patient who has been referred to a specialty clinic for one problem may also have a different problem which the clinic will go ahead and treat. Given the way data was collected, all the visits to the second clinic would be counted as referrals from the first clinic. The effect would be to give a higher referral rate (visits per referral) than was actually true. This problem is being eliminated for the Family Practice patients by the family doctors' follow-through actions on the cases they refer to specialty clinics. There were also cases where visits to a clinic got counted only as initial visits to that clinic and not as referrals because there was no record in the medical chart of the referral. This would make it appear that a higher percentage of care was being provided by a clinic than was actually the case. It was assumed for this study that these situations would be rare and that the more detailed chart review required to eliminate their possibility would not be worthwhile.

With the data on the sample now collected, the processing and analysis of the data could begin.

B. PROCESSING AND ANALYZING THE DATA

1. Comparison of the Average Visit Rates Before and After

As discussed in Part II, the first objective of this thesis was to compare the visit rates of the patients before

and after their acceptance to the Family Practice Clinic to determine if there were significant changes. To accomplish this objective, hypothesis tests concerning the mean visit rate of the patients in the two periods (Before vs. After) for each of the clinics were used. First, letting μ_{jk} = mean number of visits per year to clinic j; for period k (i.e., k = 1 is Before FP, k = 2 is After FP). The data on clinic visits formed the samples where X_{ijk} represented X number of visits by individual i (1 to N) to clinic j in period k, and $\overline{X}_{jk} = \sum_{i=1}^{N} X_{ijk}/N$ was the mean visit rate for clinic j in period k. Since the population variances were assumed to be unknown, the sample variances were calculated by

$$S_{jk}^2 = \sum_{i=1}^{N} (X_{ijk})^2/N - (\overline{X}_{jk})^2$$

The null hypothesis for each clinic that $\mu_{j1} \leq \mu_{j2}$ for each clinic, was tested against the alternative hypothesis that $\mu_{j1} > \mu_{j2}$, i.e., the mean number of visits to other clinics decreases after joining a Family Practice Clinic.

It must be pointed out that the Family Practice Clinics did not exist during the entire "Before" period so figures for that period for Family Practice were deleted.

To test the hypothesis, the statistic $\overline{X}_{j1} - \overline{X}_{j2}$ was used and the null hypothesis was rejected if this difference was significantly positive. The sampling distribution of $\overline{X}_{j1} - \overline{X}_{j2}$ has mean $\mu_{j1} - \mu_{j2}$ and sample variance S_{j1}^2 & S_{j2}^2 and, since $N_1 = N_2 > 900$, are approximately normal: therefore the sampling distribution of the statistic

$$Z_j = \frac{\bar{X}_{j1} - \bar{X}_{j2}}{\sqrt{(S^2_{j1}/N_1) + (S^2_{j2}/N_2)}}$$

is given approximately by the cumulative normal distribution. [4]. When the sample was subdivided into Age/Sex groups, similar tests were done for each group. The only change was to use a t-statistic for the critical value in the test for significance and in the calculation of confidence intervals about the mean visit rates. This was necessary because of the smaller number of individuals in the sample subgroups.

The table that follows shows the mean numbers of visits to each clinic averaged over the entire sample for each period. Also included are the variances and the test statistics with significance indicated at the 95% level (one tail test). Similar tables were done for different Age/Sex groups and are in Appendix A.

2. Determining Confidence Intervals

In Table I it is evident that there are significant decreases in the average number of visits to all the primary clinics, (AMIC/GMC, OB-GYN, PED, INT-MED, EMER), and to many of the specialty clinics. In order that these results might serve as predictors for use by hospital administrators, confidence intervals have been placed around the mean visit rates for each clinic by the following:

1) Entire Sample:

$$\bar{X}_{jk} \pm Z_{\frac{1}{2}\alpha} \sqrt{S^2_{jk}/N_k} \qquad \alpha = .05$$

TABLE I. COMPARISON OF AVERAGE VISIT RATES TO INDIVIDUAL CLINICS

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.002	0.004	1.030	5.036	0.0	
2	0.011	0.070	3.443	13.151	0.0	
3	1.564	6.052	0.216	0.412	16.406	X
4	0.462	0.919	0.261	0.389	5.453	X
5	0.133	0.555	0.061	0.134	2.684	X
6	0.396	1.045	0.176	0.454	5.541	X
7	0.763	3.494	0.100	0.297	10.537	X
8	0.081	0.384	0.038	0.095	1.962	X
9	0.003	0.003	0.002	0.002	0.448	
10	0.246	1.192	0.169	0.942	1.637	
11	0.123	0.430	0.067	0.112	2.370	X
12	0.006	0.008	0.0	0.0	2.126	X
13	0.013	0.025	0.008	0.008	0.710	
14	0.004	0.004	0.007	0.007	-0.907	
15	0.0	0.0	0.0	0.0	0.0	
16	0.094	0.392	0.062	0.133	1.382	
17	0.236	0.285	0.197	0.305	1.557	X
18	0.157	0.435	0.094	0.304	2.255	X
19	0.020	0.022	0.015	0.016	0.829	
20	0.019	0.027	0.030	0.054	-1.247	
21	0.059	0.179	0.032	0.102	1.583	
22	0.003	0.005	0.003	0.003	0.0	
23	0.007	0.014	0.004	0.004	0.729	
24	0.093	0.293	0.065	0.169	1.283	
25	0.092	0.378	0.047	0.112	1.986	X
26	0.088	0.389	0.038	0.076	2.275	X
TOTALS	4.675		6.165			

2) Age/Sex Groups:

$$\bar{X}_{jk} \pm t_{1/2\alpha} \sqrt{S^2_{jk}/N_k} \qquad \alpha = .05$$

Table II is for entire sample and is presented here. The tables for Age/Sex groups are found in Appendix A.

TABLE II. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES TO INDIVIDUAL CLINICS

CLINIC NUMBER	INTERVAL BEFORE			INTERVAL AFTER		
1	0.0	-	0.006	0.888	-	1.172
2	0.0	-	0.028	3.213	-	3.672
3	1.408	-	1.719	0.175	-	0.257
4	0.402	-	0.523	0.221	-	0.300
5	0.085	-	0.180	0.037	-	0.084
6	0.331	-	0.460	0.134	-	0.219
7	0.645	-	0.881	0.066	-	0.135
8	0.042	-	0.121	0.018	-	0.057
9	0.0	-	0.007	0.0	-	0.005
10	0.177	-	0.315	0.108	-	0.231
11	0.082	-	0.165	0.046	-	0.088
12	0.000	-	0.012	0.0	-	0.0
13	0.003	-	0.023	0.003	-	0.014
14	0.000	-	0.008	0.002	-	0.013
15	0.0	-	0.0	0.0	-	0.0
16	0.054	-	0.134	0.038	-	0.035
17	0.202	-	0.270	0.162	-	0.232
18	0.115	-	0.198	0.059	-	0.129
19	0.011	-	0.029	0.006	-	0.023
20	0.008	-	0.029	0.016	-	0.045
21	0.033	-	0.086	0.012	-	0.053
22	0.0	-	0.008	0.0	-	0.007
23	0.0	-	0.015	0.000	-	0.008
24	0.059	-	0.127	0.039	-	0.091
25	0.053	-	0.131	0.026	-	0.068
26	0.048	-	0.127	0.020	-	0.055

3. Grouping Clinics

In order to better compare the visit rates for Family Practice Clinic operation in the "After" period with the Primary Clinics' operation in the "Before" period, it was decided to restructure the data into special groups: Family Practice, Primary Care, and Specialty Care. The Primary Care group includes AMIC/GMC, OB-GYN, INT-MED, PED, and EMER. All other clinics are grouped together as the Specialty clinics. As previously discussed, the Family Practice doctors are trained in all primary care modes and therefore a patient in the Family Practice program should not utilize the primary care clinics as frequently as before joining the program. The number of visits for each sample member was categorized into three groups and for these consolidated groupings statistics were calculated in a manner similar to the previous calculations to include the confidence interval. The results of these calculations are shown in the following table.

TABLE III. COMPARISON OF AVERAGE VISIT RATES TO GROUPED CLINICS

CLINIC GROUP	VISITS BEFORE	VAR	VISITS AFTER	VAR	TEST STAT	SIGNIF
FAMILY	0.014	0.074	4.474	18.550	0.0	
PRIMARY	3.318	12.788	0.813	2.283	19.980	X
SPECIALTY	1.346	5.628	0.877	3.418	4.832	X
TOTALS	4.678		6.165			

These average visit rates were also given a 95% confidence interval and are recorded below. Tables for Age/Sex groups are in Appendix A.

TABLE IV. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES TO GROUPED CLINICS

CLINIC GROUP	INTERVAL BEFORE	INTERVAL AFTER
FAMILY	0.0 - 0.031	4.202 - 4.747
PRIMARY	3.092 - 3.544	0.718 - 0.909
SPECIALTY	1.196 - 1.496	0.760 - 0.994

The average number of visits to all clinics was summed up and require some explanation. The average for the "Before" period was 4.678 visits per year and the average "After" was 6.165. A discussion of this increase with members of the Health Care Studies Unit and the head of the Family Practice Clinic revealed that initial "come meet your doctor" type visits were not uncommon for families when they were accepted to the clinic. This initial visit also often led to the making of routine appointments for physical check-ups for all members of the family. The Family Practice program also incorporates preventive medicine which accounts for still another increase in visits. The data that was available at the time of the study did not make it possible to predict whether this increase in the average number of visits will continue as the Family Practice Clinic becomes more established. Also, the feeling of one of the doctors working with the Health Care Studies Unit was that many patients who had previously gone to civilian sources were now coming into North Family Practice Clinic. This was based on his preliminary analysis of data collected on hospitalization in the two periods of Family Practice patients.

4. Care Provided by Family Practice Clinic

The results for objective three are very interesting. Using the average visit rates from Table III, the percentage of total visits to each group were calculated and are listed in Table V.

TABLE V. PERCENTAGE OF AVERAGE VISITS TO FAMILY PRACTICE, PRIMARY AND SPECIALTY CLINICS

CLINIC	BEFORE		AFTER	
GROUP	VISITS	PERCENT	VISITS	PERCENT
FAMILY	.014	.30	4.474	72.58
PRIMARY	3.318	70.93	0.813	13.19
SPECIALTY	1.346	28.77	0.877	14.23
TOTALS	4.678	100.00	6.165	100.00

It will be noted that the family practice group is handling a slightly greater percentage of the total average number of visits in the "After" period than the primary group handled in the "Before" period. As discussed in section II, this is the result that should be expected for patients who change to Family Practice. The next step in the analysis was to look at the referral pattern of the different clinics. There are charts showing the referral of all clinics that make referrals in Appendix B. The charts give the total number of times one clinic referred patients to another, and the total number of visits that resulted from those referrals. The more pertinent results from the referral review will be discussed here.

The first concern was to determine what percentage of the visits in the "After" period that were not to Family Practice were a result of referrals from Family Practice. The Family Practice Clinic made 166 referrals that resulted in 274 visits to other clinics. This is to say that approximately 94% of the health care required by the patients who initially go to the Family Practice Clinics is provided by the clinics. By comparison, in the "Before" period the primary clinics made 176 referrals, or 357 visits; which is to say, the five primary clinics provided 89.7% of the health care their patients required.

The last thing determined was what percent of Family Practice referral care was provided by the various primary and specialty clinics.

TABLE VI. FAMILY PRACTICE REFERRALS

CLINIC	# REFERRALS	# VISITS	% OF TOTAL VISITS
DERM	18	42	15.3
OB-GYN	18	33	12.0
ORTH	15	31	11.3
ENT	21	25	9.1
SURG	16	24	8.8
UROL	11	23	8.4
OPHT	13	16	5.8
OPTO	6	15	5.5
OTHR	8	13	4.7
OLLY	4	11	4.0
PODY	7	9	3.3
PT	5	8	2.9
ALL OTHERS	24	24	8.9
TOTALS	166	274	100.0

5. Composition of the Sample

The next three tables provide a rough idea of the composition of the patient sample when separated into Age/Sex groups and, for the sponsors, grade and status groups. Age and sex data was available on 95.6% of total sample. For Grade/Status, data was available on 95.6%.

TABLE VII. DEPENDENT AGE/SEX SUBGROUPS

AGE	MALE		FEMALE		
GROUP	NUMBER	PERCENT	NUMBER	PERCENT	TOTALS
00-01	12	5.150	6	1.179	18
02-06	63	27.039	56	11.002	119
07-15	105	45.064	110	21.611	215
16-24	49	21.030	73	14.342	122
25-44	0	0.0	165	32.416	165
45-64	1	0.429	93	18.271	94
65 >	3	1.288	6	1.179	9
TOTAL	233.	31.402	509.	68.598	742.

TABLE VIII. MILITARY AGE/SEX SUBGROUPS

AGE GROUP	MALE NUMBER	 PERCENT	FEMALE NUMBER	 PERCENT	 TOTALS
00-01	0	0.0	0	0.0	0
02-06	0	0.0	0	0.0	0
07-15	0	0.0	0	0.0	0
16-24	6	3.468	0	0.0	6
25-44	62	35.838	0	0.0	62
45-64	96	55.491	1	******	97
65 >	9	5.202	0	0.0	9
TOTAL	173.	99.425	1.	0.575	174.

TABLE IX. MILITARY GRADE/STATUS SUBGROUPS

GRADE GROUP	ACTIVE NUMBER	 PERCENT	RETIRED NUMBER	 PERCENT	 TOTALS
E1-E4	2	3.571	2	1.709	4
E5-E9	44	78.571	81	69.231	125
W1-W2	0	0.0	1	0.855	1
W3-W4	0	0.0	0	0.0	0
01-03	7	12.500	4	3.419	11
04-06	3	5.357	29	24.786	32
07-09	0	0.0	0	0.0	0
TOTAL	56.	32.370	117.	67.630	173.

IV. CONCLUSIONS AND RECOMMENDATIONS

It is felt that the objectives of the thesis have been accomplished and have provided the following conclusions. First, it has been shown that there is a significant change in the clinic utilization pattern of patients who become members of a family practice program. When the patient joins family practice, his average visits to the other clinics decrease. Secondly, the overall significance of this decrease makes it possible for Hospital Administrators to use the given confidence intervals to change their allocation of hospital resources prior to establishing a family practice clinic similar to the North Fort Ord Family Practice Clinic. We can also conclude that the Family Practice Clinic is providing 94 percent of the care required by members who come into the clinic, and 72.5 percent of the care required by the total membership. Since this study primarily analyzed the medical requirements of the sample in terms of "how much" and "by whom," it is not feasible to try to draw conclusions from the available data as to "why" family practice works. However, determining "why" would be an excellent area for future study. It can also be seen from the analysis that family practice is not a replacement for all other clinics. There are patients with special problems that require a medical specialist's care. The study also revealed that the overall clinic usage for members of family practice increased from an average of 4.678

to 6.165 visits per year. This increase is suspect because it was measured for each patient's first year of acceptance into a family practice program, and consequently may be transient in nature.

This thesis has been a preliminary effort. The proxy variable for the amount of care provided by a clinic was the number of visits to that clinic. It was relatively easy to determine, and made possible the analysis of clinic utilizations, average visit rates, and referrals of patients between clinics.

However, this also provides a starting place for other detailed studies. It is recommended that similar data be collected from other military installations where family practice clinics are operating and be analyzed and compared with this study. It is also recommended that a more detailed chart review be made of records randomly selected from the Family Practice Clinic membership to determine what constitutes an "average" visit to the other clinics or to determine exactly what type of medical problems are referred by family practitioners and why. A study should be made to determine exactly why the overall average number of visits appears to increase for family practice patients. This may be a transient phenomena. The Health Care Studies Unit is conducting studies on patient and clinic staff satisfaction that might help explain some of the utilization changes. A study of the changes in the patients' utilization of CHAMPUS and other civilian modes of care would provide insights into the amount of care not

provided by military health care facilities. Some measure and comparison of the quality of care provided by each of the various health care modes available to military patients should also be analyzed.

Once the above recommendations are accomplished, it will probably be possible to determine just how the family practice program fits into the overall Military Health Care System.

APPENDIX A: TABLES FOR AGE/SEX GROUPS

This appendix contains tables similar to those in the body of the thesis. There are comparison of and confidence intervals on the average visit rates to individual and grouped clinics for different Age/Sex groups from the sample. The tables are numbered in the following manner: Roman numerals (I, II, III, & IV) match those for full sample tables. The letter A is for female dependents, B is for male dependents, and C is for military sponsors. The numbers (1-5) indicate the age subgroup.

TABLE I A 1. COMPARISON OF AVERAGE VISIT RATES FOR
FEMALE DEPENDENTS- AGES 0 TO 6

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.031	0.062	1.250	4.594	0.0	
2	0.0	0.0	2.844	6.788	0.0	
3	0.691	1.535	0.188	0.184	4.291	X
4	0.641	0.866	0.250	0.250	2.931	X
5	0.0	0.0	0.0	0.0	0.0	
6	0.031	0.062	0.0	0.0	1.008	
7	2.813	8.215	0.406	1.616	6.139	X
8	0.016	0.015	0.078	0.197	-1.085	
9	0.0	0.0	0.0	0.0	0.0	
10	0.016	0.015	0.016	0.015	0.0	
11	0.016	0.015	0.047	0.045	-1.020	
12	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.063	0.246	0.063	0.152	0.0	
17	0.156	1.007	0.109	0.410	0.315	
18	0.125	0.234	0.047	0.076	1.122	
19	0.0	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.0	0.0	0.0	
21	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	
24	0.016	0.015	0.0	0.0	1.008	
25	0.0	0.0	0.0	0.0	0.0	
26	0.0	0.0	0.016	0.015	-1.008	
TOTALS	4.813		5.313			

TABLE I A 2. COMPARISON OF AVERAGE VISIT RATES FOR
FEMALE DEPENDENTS- AGES 7 TO 15

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	0.800	2.287	0.0	
2	0.0	0.0	1.373	2.743	0.0	
3	0.636	1.050	0.027	0.027	6.158	X
4	0.618	1.363	0.200	0.360	3.341	X
5	0.0	0.0	0.0	0.0	0.0	
6	0.009	0.009	0.0	0.0	1.005	
7	1.445	3.320	0.173	0.470	6.857	X
8	0.109	0.315	0.109	0.352	0.0	
9	0.009	0.009	0.0	0.0	1.005	
10	0.327	3.275	0.145	1.052	0.917	
11	0.073	0.140	0.009	0.009	1.728	X
12	0.0	0.0	0.0	0.0	0.0	
13	0.009	0.009	0.009	0.009	0.0	
14	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.018	0.018	0.018	0.018	0.0	
17	0.209	0.184	0.182	0.167	0.483	
18	0.091	0.155	0.100	0.308	-0.140	
19	0.0	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.009	0.009	-1.005	
21	0.045	0.062	0.073	0.449	-0.400	
22	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	
24	0.0	0.0	0.027	0.081	-1.005	
25	0.0	0.0	0.036	0.144	-1.005	
26	0.018	0.018	0.018	0.018	0.0	
TOTALS	3.618		3.309			

TABLE I A 3. COMPARISON OF AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 16 TO 24

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	1.096	3.183	0.0	
2	0.0	0.0	3.726	12.089	0.0	
3	1.534	4.112	0.247	0.460	5.146	X
4	0.534	1.400	0.534	1.071	0.0	
5	0.0	0.0	0.041	0.122	-1.007	
6	0.507	1.647	0.123	0.190	2.418	X
7	0.014	0.014	0.0	0.0	1.007	
8	0.068	0.173	0.014	0.014	1.083	
9	0.0	0.0	0.0	0.0	0.0	
10	0.507	2.086	0.205	0.629	1.563	
11	0.068	0.091	0.014	0.014	1.447	
12	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.082	0.130	0.027	0.027	1.182	
17	0.260	0.220	0.301	0.265	-0.504	
18	0.110	0.235	0.096	0.251	0.168	
19	0.0	0.0	0.0	0.0	0.0	
20	0.014	0.014	0.027	0.054	-0.450	
21	0.164	0.603	0.027	0.027	1.475	
22	0.027	0.054	0.0	0.0	1.007	
23	0.0	0.0	0.027	0.027	-1.434	
24	0.014	0.014	0.014	0.014	0.0	
25	0.082	0.185	0.041	0.067	0.700	
26	0.027	0.027	0.0	0.0	1.434	
TOTALS	4.014		6.562			

TABLE I A 4. COMPARISON OF AVERAGE VISIT RATES FOR
FEMALE DEPENDENTS- AGES 25 TO 44

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	1.811	9.702	0.0	
2	0.006	0.006	4.793	16.445	0.0	
3	2.939	12.362	0.366	0.500	9.188	X
4	0.409	1.156	0.201	0.246	2.242	X
5	0.110	0.561	0.122	0.229	-0.176	
6	1.317	2.265	0.610	1.555	4.634	X
7	0.024	0.060	0.0	0.0	1.271	
8	0.079	0.341	0.018	0.055	1.241	
9	0.006	0.006	0.0	0.0	1.003	
10	0.268	0.721	0.183	0.454	1.009	
11	0.128	0.392	0.030	0.042	1.897	X
12	0.018	0.018	0.0	0.0	1.748	X
13	0.0	0.0	0.006	0.006	-1.003	
14	0.0	0.0	0.018	0.018	-1.748	
15	0.0	0.0	0.0	0.0	0.0	
16	0.061	0.094	0.012	0.012	1.920	X
17	0.220	0.184	0.201	0.222	0.368	
18	0.104	0.276	0.122	0.753	-0.231	
19	0.006	0.006	0.006	0.006	0.0	
20	0.030	0.042	0.030	0.042	0.0	
21	0.098	0.356	0.037	0.047	1.229	
22	0.0	0.0	0.0	0.0	0.0	
23	0.012	0.012	0.012	0.012	0.0	
24	0.201	0.441	0.152	0.446	0.663	
25	0.043	0.077	0.037	0.108	0.181	
26	0.037	0.072	0.024	0.036	0.476	
TOTALS	6.116		8.793			

TABLE I A 5. COMPARISON OF AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 45 TO 99

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	0.763	5.356	0.0	
2	0.093	0.661	5.845	22.687	0.0	
3	2.938	10.347	0.309	0.379	7.906	X
4	0.381	0.607	0.165	0.200	2.374	X
5	0.402	1.333	0.155	0.337	1.886	X
6	1.113	2.018	0.536	0.991	3.278	X
7	0.0	0.0	0.0	0.0	0.0	
8	0.103	0.299	0.0	0.0	1.858	X
9	0.0	0.0	0.0	0.0	0.0	
10	0.557	2.845	0.268	0.856	1.478	
11	0.206	0.494	0.082	0.096	1.586	
12	0.0	0.0	0.0	0.0	0.0	
13	0.072	0.191	0.041	0.040	0.635	
14	0.021	0.020	0.010	0.010	0.582	
15	0.0	0.0	0.0	0.0	0.0	
16	0.258	0.872	0.072	0.067	1.866	X
17	0.402	0.302	0.247	0.207	2.135	X
18	0.330	1.108	0.113	0.286	1.806	X
19	0.021	0.041	0.0	0.0	1.005	
20	0.031	0.051	0.031	0.030	0.0	
21	0.082	0.199	0.052	0.090	0.566	
22	0.010	0.010	0.031	0.030	-1.013	
23	0.041	0.101	0.0	0.0	1.275	
24	0.134	0.260	0.062	0.120	1.153	
25	0.082	0.158	0.093	0.311	-0.148	
26	0.155	0.378	0.093	0.393	0.694	
TOTALS	7.433		8.969			

TABLE I B 1. COMPARISON OF AVERAGE VISIT RATES FOR
MALE DEPENDENTS- AGES 0 TO 6

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	1.727	6.666	0.0	
2	0.0	0.0	2.974	9.636	0.0	
3	0.792	1.853	0.299	1.015	2.557	X
4	0.286	0.334	0.442	0.506	-1.492	
5	0.0	0.0	0.013	0.013	-1.007	
6	0.0	0.0	0.013	0.013	-1.007	
7	2.610	12.030	0.416	0.892	5.358	X
8	0.234	2.465	0.026	0.051	1.150	
9	0.0	0.0	0.0	0.0	0.0	
10	0.0	0.0	0.039	0.037	-1.767	
11	0.013	0.013	0.026	0.025	-0.584	
12	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.0	0.0	0.013	0.013	-1.007	
17	0.013	0.013	0.078	0.072	-1.958	
18	0.0	0.0	0.052	0.049	-2.054	
19	0.0	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.0	0.0	0.0	
21	0.013	0.013	0.0	0.0	1.007	
22	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	
24	0.026	0.051	0.0	0.0	1.007	
25	0.0	0.0	0.039	0.115	-1.007	
26	0.013	0.013	0.039	0.037	-1.017	
TOTALS	4.000		6.195			

TABLE I B 2. COMPARISON OF AVERAGE VISIT RATES FOR

MALE DEPENDENTS- AGES 7 TO 15

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	0.524	1.488	0.0	
2	0.0	0.0	1.867	4.687	0.0	
3	0.381	0.464	0.076	0.070	4.270	X
4	0.619	1.093	0.343	0.435	2.290	X
5	0.0	0.0	0.010	0.009	-1.005	
6	0.0	0.0	0.019	0.038	-1.005	
7	1.457	4.020	0.105	0.227	6.725	X
8	0.095	0.200	0.048	0.064	0.948	
9	0.0	0.0	0.0	0.0	0.0	
10	0.152	0.815	0.038	0.094	1.229	
11	0.095	0.143	0.133	0.325	-0.570	
12	0.029	0.047	0.0	0.0	1.353	
13	0.010	0.009	0.010	0.009	0.0	
14	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.095	0.258	0.057	0.168	0.598	
17	0.229	0.272	0.143	0.180	1.308	
18	0.181	0.453	0.067	0.119	1.548	
19	0.0	0.0	0.0	0.0	0.0	
20	0.010	0.009	0.010	0.009	0.0	
21	0.067	0.272	0.010	0.009	1.104	
22	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	
24	0.010	0.009	0.019	0.038	-0.449	
25	0.019	0.038	0.048	0.102	-0.782	
26	0.010	0.009	0.010	0.009	0.0	
TOTALS	3.457		3.533			

TABLE I B 3. COMPARISON OF AVERAGE VISIT RATES FOR MALE DEPENDENTS- AGES 16 TO 24

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	0.265	0.358	0.0	
2	0.020	0.020	1.449	3.390	0.0	
3	0.959	1.590	0.143	0.367	4.084	X
4	0.592	1.099	0.245	0.267	2.078	X
5	0.0	0.0	0.0	0.0	0.0	
6	0.0	0.0	0.0	0.0	0.0	
7	0.0	0.0	0.0	0.0	0.0	
8	0.020	0.020	0.0	0.0	1.010	
9	0.0	0.0	0.0	0.0	0.0	
10	0.041	0.080	0.102	0.337	-0.664	
11	0.469	3.841	0.122	0.393	1.180	
12	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.041	0.039	0.020	0.020	0.587	
17	0.102	0.092	0.224	0.215	-1.548	
18	0.265	0.930	0.102	0.214	1.069	
19	0.0	0.0	0.0	0.0	0.0	
20	0.041	0.080	0.020	0.020	0.452	
21	0.041	0.080	0.020	0.020	0.452	
22	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	
24	0.0	0.0	0.143	0.367	-1.650	
25	0.020	0.020	0.041	0.080	-0.452	
26	0.041	0.039	0.020	0.020	0.587	
TOTALS	2.653		2.918			

TABLE I C 1. COMPARISON OF AVERAGE VISIT RATES TO MILITARY SPONSORS- AGES 16 TO 44

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	0.821	1.789	0.0	
2	0.0	0.0	3.448	9.113	0.0	
3	1.179	3.102	0.015	0.015	5.397	X
4	0.134	0.206	0.209	0.255	-0.900	
5	0.134	0.415	0.060	0.146	0.816	
6	0.075	0.188	0.015	0.015	1.084	
7	0.060	0.146	0.0	0.0	1.280	
8	0.0	0.0	0.015	0.015	-1.008	
9	0.0	0.0	0.0	0.0	0.0	
10	0.104	0.273	0.164	1.481	-0.369	
11	0.194	0.485	0.045	0.043	1.682	X
12	0.0	0.0	0.0	0.0	0.0	
13	0.015	0.015	0.0	0.0	1.008	
14	0.015	0.015	0.030	0.029	-0.585	
15	0.0	0.0	0.0	0.0	0.0	
16	0.0	0.0	0.030	0.059	-1.008	
17	0.194	0.246	0.373	1.607	-1.077	
18	0.104	0.183	0.030	0.029	1.326	
19	0.090	0.082	0.104	0.123	-0.270	
20	0.015	0.015	0.045	0.073	-0.827	
21	0.030	0.029	0.015	0.015	0.585	
22	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	
24	0.134	0.594	0.090	0.261	0.396	
25	0.254	1.652	0.045	0.043	1.314	
26	0.522	3.324	0.119	0.165	1.766	X
TOTALS	3.254		5.672			

TABLE I C 2. COMPARISON OF AVERAGE VISIT RATES TO
MILITARY SPONSORS- AGES 45 TO 99

CLINIC NUMBER	AV VISITS	VAR	AV VISITS	VAR	TEST STAT	SIGNIF
1	0.0	0.0	0.962	7.941	0.0	
2	0.0	0.0	4.590	14.832	0.0	
3	1.933	6.329	0.352	0.914	6.019	X
4	0.410	0.661	0.143	0.256	2.854	X
5	0.524	2.211	0.124	0.318	2.577	X
6	0.010	0.009	0.0	0.0	1.005	
7	0.0	0.0	0.0	0.0	0.0	
8	0.048	0.102	0.029	0.085	0.451	
9	0.010	0.009	0.019	0.019	-0.582	
10	0.343	0.873	0.438	4.132	-0.436	
11	0.124	0.242	0.114	0.101	0.167	
12	0.0	0.0	0.0	0.0	0.0	
13	0.019	0.019	0.010	0.009	0.582	
14	0.010	0.009	0.010	0.009	0.0	
15	0.0	0.0	0.0	0.0	0.0	
16	0.200	1.531	0.229	0.481	-0.206	
17	0.457	0.401	0.190	0.154	3.669	X
18	0.248	0.548	0.171	0.485	0.768	
19	0.095	0.086	0.048	0.045	1.345	
20	0.038	0.056	0.076	0.128	-0.912	
21	0.019	0.019	0.067	0.253	-0.937	
22	0.0	0.0	0.0	0.0	0.0	
23	0.010	0.009	0.0	0.0	1.005	
24	0.267	1.205	0.095	0.200	1.482	
25	0.429	1.769	0.067	0.062	2.741	X
26	0.114	0.501	0.048	0.045	0.924	
TOTALS	5.305		7.781			

TABLE II A 1. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 0 TO 6

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.093	0.714 - 1.786
2	0.0 - 0.0	2.192 - 3.495
3	0.581 - 1.200	0.080 - 0.295
4	0.405 - 0.876	0.125 - 0.375
5	0.0 - 0.0	0.0 - 0.0
6	0.0 - 0.093	0.0 - 0.0
7	2.096 - 3.529	0.088 - 0.724
8	0.0 - 0.047	0.0 - 0.189
9	0.0 - 0.0	0.0 - 0.0
10	0.0 - 0.047	0.0 - 0.047
11	0.0 - 0.047	0.0 - 0.100
12	0.0 - 0.0	0.0 - 0.0
13	0.0 - 0.0	0.0 - 0.0
14	0.0 - 0.0	0.0 - 0.0
15	0.0 - 0.0	0.0 - 0.0
16	0.0 - 0.187	0.0 - 0.160
17	0.0 - 0.407	0.0 - 0.269
18	0.004 - 0.246	0.0 - 0.116
19	0.0 - 0.0	0.0 - 0.0
20	0.0 - 0.0	0.0 - 0.0
21	0.0 - 0.0	0.0 - 0.0
22	0.0 - 0.0	0.0 - 0.0
23	0.0 - 0.0	0.0 - 0.0
24	0.0 - 0.047	0.0 - 0.0
25	0.0 - 0.0	0.0 - 0.0
26	0.0 - 0.0	0.0 - 0.047

TABLE II A 2. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 7 TO 15

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	0.513 - 1.087
2	0.0 - 0.0	1.058 - 1.687
3	0.442 - 0.831	0.0 - 0.058
4	0.397 - 0.840	0.086 - 0.314
5	0.0 - 0.0	0.0 - 0.0
6	0.0 - 0.027	0.0 - 0.0
7	1.100 - 1.791	0.043 - 0.303
8	0.003 - 0.216	0.0 - 0.222
9	0.0 - 0.027	0.0 - 0.0
10	0.0 - 0.671	0.0 - 0.340
11	0.002 - 0.144	0.0 - 0.027
12	0.0 - 0.0	0.0 - 0.0
13	0.0 - 0.027	0.0 - 0.027
14	0.0 - 0.0	0.0 - 0.0
15	0.0 - 0.0	0.0 - 0.0
16	0.0 - 0.044	0.0 - 0.044
17	0.128 - 0.290	0.104 - 0.259
18	0.016 - 0.166	0.0 - 0.205
19	0.0 - 0.0	0.0 - 0.0
20	0.0 - 0.0	0.0 - 0.027
21	0.0 - 0.093	0.0 - 0.200
22	0.0 - 0.0	0.0 - 0.0
23	0.0 - 0.0	0.0 - 0.0
24	0.0 - 0.0	0.0 - 0.081
25	0.0 - 0.0	0.0 - 0.108
26	0.0 - 0.044	0.0 - 0.044

TABLE II A 3. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 16 TO 24

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	0.679 - 1.512
2	0.0 - 0.0	2.914 - 4.538
3	1.061 - 2.008	0.083 - 0.405
4	0.258 - 0.810	0.293 - 0.776
5	0.0 - 0.0	0.0 - 0.123
6	0.207 - 0.807	0.021 - 0.225
7	0.0 - 0.041	0.0 - 0.0
8	0.0 - 0.166	0.0 - 0.041
9	0.0 - 0.0	0.0 - 0.0
10	0.170 - 0.844	0.020 - 0.391
11	0.0 - 0.139	0.0 - 0.041
12	0.0 - 0.0	0.0 - 0.0
13	0.0 - 0.0	0.0 - 0.0
14	0.0 - 0.0	0.0 - 0.0
15	0.0 - 0.0	0.0 - 0.0
16	0.0 - 0.166	0.0 - 0.066
17	0.151 - 0.370	0.181 - 0.422
18	0.0 - 0.223	0.0 - 0.213
19	0.0 - 0.0	0.0 - 0.0
20	0.0 - 0.041	0.0 - 0.082
21	0.0 - 0.346	0.0 - 0.066
22	0.0 - 0.082	0.0 - 0.0
23	0.0 - 0.0	0.0 - 0.066
24	0.0 - 0.041	0.0 - 0.041
25	0.0 - 0.183	0.0 - 0.101
26	0.0 - 0.066	0.0 - 0.0

TABLE II A 4. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 25 TO 44

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	1.331 - 2.291
2	0.0 - 0.018	4.167 - 5.418
3	2.397 - 3.481	0.257 - 0.475
4	0.243 - 0.574	0.125 - 0.278
5	0.0 - 0.225	0.048 - 0.196
6	1.085 - 1.549	0.417 - 0.802
7	0.0 - 0.062	0.0 - 0.0
8	0.0 - 0.169	0.0 - 0.054
9	0.0 - 0.018	0.0 - 0.0
10	0.137 - 0.399	0.079 - 0.287
11	0.031 - 0.225	0.0 - 0.062
12	0.0 - 0.039	0.0 - 0.0
13	0.0 - 0.0	0.0 - 0.018
14	0.0 - 0.0	0.0 - 0.039
15	0.0 - 0.0	0.0 - 0.0
16	0.014 - 0.108	0.0 - 0.029
17	0.153 - 0.286	0.129 - 0.274
18	0.023 - 0.185	0.0 - 0.256
19	0.0 - 0.018	0.0 - 0.018
20	0.0 - 0.062	0.0 - 0.062
21	0.006 - 0.190	0.003 - 0.070
22	0.0 - 0.0	0.0 - 0.0
23	0.0 - 0.029	0.0 - 0.029
24	0.099 - 0.304	0.049 - 0.255
25	0.0 - 0.086	0.0 - 0.087
26	0.0 - 0.078	0.0 - 0.054

TABLE II A 5. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR FEMALE DEPENDENTS- AGES 45 TO 99

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	0.295 - 1.231
2	0.0 - 0.257	4.883 - 6.808
3	2.288 - 3.588	0.185 - 0.434
4	0.224 - 0.539	0.075 - 0.255
5	0.169 - 0.635	0.037 - 0.272
6	0.826 - 1.400	0.335 - 0.737
7	0.0 - 0.0	0.0 - 0.0
8	0.0 - 0.214	0.0 - 0.0
9	0.0 - 0.0	0.0 - 0.0
10	0.216 - 0.897	0.081 - 0.455
11	0.064 - 0.348	0.020 - 0.145
12	0.0 - 0.0	0.0 - 0.0
13	0.0 - 0.160	0.001 - 0.081
14	0.0 - 0.049	0.0 - 0.031
15	0.0 - 0.0	0.0 - 0.0
16	0.069 - 0.446	0.020 - 0.124
17	0.291 - 0.513	0.156 - 0.339
18	0.117 - 0.543	0.005 - 0.221
19	0.0 - 0.061	0.0 - 0.0
20	0.0 - 0.076	0.0 - 0.066
21	0.0 - 0.173	0.0 - 0.112
22	0.0 - 0.031	0.0 - 0.066
23	0.0 - 0.106	0.0 - 0.0
24	0.031 - 0.237	0.0 - 0.132
25	0.002 - 0.163	0.0 - 0.205
26	0.030 - 0.279	0.0 - 0.220

TABLE II B 1. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR MALE DEPENDENTS- AGES 0 TO 6

CLINIC NUMBER	INTERVAL BEFORE			INTERVAL AFTER		
1	0.0	-	0.0	1.140	-	2.314
2	0.0	-	0.0	2.268	-	3.630
3	0.483	-	1.102	0.070	-	0.528
4	0.154	-	0.417	0.280	-	0.603
5	0.0	-	0.0	0.0	-	0.039
6	0.0	-	0.0	0.0	-	0.039
7	1.822	-	3.399	0.201	-	0.630
8	0.0	-	0.591	0.0	-	0.077
9	0.0	-	0.0	0.0	-	0.0
10	0.0	-	0.0	0.0	-	0.083
11	0.0	-	0.039	0.0	-	0.062
12	0.0	-	0.0	0.0	-	0.0
13	0.0	-	0.0	0.0	-	0.0
14	0.0	-	0.0	0.0	-	0.0
15	0.0	-	0.0	0.0	-	0.0
16	0.0	-	0.0	0.0	-	0.039
17	0.0	-	0.039	0.017	-	0.139
18	0.0	-	0.0	0.001	-	0.102
19	0.0	-	0.0	0.0	-	0.0
20	0.0	-	0.0	0.0	-	0.0
21	0.0	-	0.039	0.0	-	0.0
22	0.0	-	0.0	0.0	-	0.0
23	0.0	-	0.0	0.0	-	0.0
24	0.0	-	0.077	0.0	-	0.0
25	0.0	-	0.0	0.0	-	0.116
26	0.0	-	0.039	0.0	-	0.083

TABLE II B 2. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR MALE DEPENDENTS- AGES 7 TO 15

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	0.287 - 0.761
2	0.0 - 0.0	1.446 - 2.287
3	0.249 - 0.513	0.025 - 0.128
4	0.416 - 0.822	0.215 - 0.471
5	0.0 - 0.0	0.0 - 0.028
6	0.0 - 0.0	0.0 - 0.057
7	1.068 - 1.847	0.012 - 0.197
8	0.008 - 0.182	0.0 - 0.097
9	0.0 - 0.0	0.0 - 0.0
10	0.0 - 0.328	0.0 - 0.098
11	0.022 - 0.169	0.023 - 0.244
12	0.0 - 0.071	0.0 - 0.0
13	0.0 - 0.028	0.0 - 0.028
14	0.0 - 0.0	0.0 - 0.0
15	0.0 - 0.0	0.0 - 0.0
16	0.0 - 0.194	0.0 - 0.137
17	0.127 - 0.330	0.061 - 0.225
18	0.050 - 0.312	0.0 - 0.134
19	0.0 - 0.0	0.0 - 0.0
20	0.0 - 0.028	0.0 - 0.028
21	0.0 - 0.168	0.0 - 0.028
22	0.0 - 0.0	0.0 - 0.0
23	0.0 - 0.0	0.0 - 0.0
24	0.0 - 0.028	0.0 - 0.057
25	0.0 - 0.057	0.0 - 0.110
26	0.0 - 0.028	0.0 - 0.028

TABLE II B 3. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES FOR MALE DEPENDENTS- AGES 16 TO 24

CLINIC NUMBER	INTERVAL BEFORE			INTERVAL AFTER		
1	0.0	-	0.0	0.093	-	0.437
2	0.0	-	0.061	0.920	-	1.978
3	0.597	-	1.321	0.0	-	0.317
4	0.291	-	0.893	0.097	-	0.393
5	0.0	-	0.0	0.0	-	0.0
6	0.0	-	0.0	0.0	-	0.0
7	0.0	-	0.0	0.0	-	0.0
8	0.0	-	0.061	0.0	-	0.0
9	0.0	-	0.0	0.0	-	0.0
10	0.0	-	0.122	0.0	-	0.269
11	0.0	-	1.032	0.0	-	0.302
12	0.0	-	0.0	0.0	-	0.0
13	0.0	-	0.0	0.0	-	0.0
14	0.0	-	0.0	0.0	-	0.0
15	0.0	-	0.0	0.0	-	0.0
16	0.0	-	0.098	0.0	-	0.061
17	0.015	-	0.189	0.091	-	0.358
18	0.0	-	0.542	0.0	-	0.235
19	0.0	-	0.0	0.0	-	0.0
20	0.0	-	0.122	0.0	-	0.061
21	0.0	-	0.122	0.0	-	0.061
22	0.0	-	0.0	0.0	-	0.0
23	0.0	-	0.0	0.0	-	0.0
24	0.0	-	0.0	0.0	-	0.317
25	0.0	-	0.061	0.0	-	0.122
26	0.0	-	0.098	0.0	-	0.061

TABLE II C 1. 95% CONFIDENCE INTERVAL FOR AVERAGE VISIT RATES FOR MILITARY SPONSORS-AGES 16 TO 44

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	0.494 - 1.148
2	0.0 - 0.0	2.710 - 4.185
3	0.749 - 1.609	0.0 - 0.045
4	0.023 - 0.245	0.086 - 0.332
5	0.0 - 0.292	0.0 - 0.153
6	0.0 - 0.181	0.0 - 0.045
7	0.0 - 0.153	0.0 - 0.0
8	0.0 - 0.0	0.0 - 0.045
9	0.0 - 0.0	0.0 - 0.0
10	0.0 - 0.232	0.0 - 0.461
11	0.024 - 0.364	0.0 - 0.095
12	0.0 - 0.0	0.0 - 0.0
13	0.0 - 0.045	0.0 - 0.0
14	0.0 - 0.045	0.0 - 0.071
15	0.0 - 0.0	0.0 - 0.0
16	0.0 - 0.0	0.0 - 0.089
17	0.073 - 0.315	0.063 - 0.683
18	0.0 - 0.209	0.0 - 0.071
19	0.020 - 0.159	0.019 - 0.190
20	0.0 - 0.045	0.0 - 0.111
21	0.0 - 0.071	0.0 - 0.045
22	0.0 - 0.0	0.0 - 0.0
23	0.0 - 0.0	0.0 - 0.0
24	0.0 - 0.323	0.0 - 0.214
25	0.0 - 0.568	0.0 - 0.095
26	0.077 - 0.968	0.020 - 0.219

TABLE II C 2. 95% CONFIDENCE INTERVAL FOR AVERAGE VISIT RATES FOR MILITARY SPONSORS-AGES 45 TO 99

CLINIC NUMBER	INTERVAL BEFORE	INTERVAL AFTER
1	0.0 - 0.0	0.415 - 1.509
2	0.0 - 0.0	3.843 - 5.338
3	1.445 - 2.422	0.167 - 0.538
4	0.252 - 0.567	0.045 - 0.241
5	0.235 - 0.813	0.014 - 0.233
6	0.0 - 0.028	0.0 - 0.0
7	0.0 - 0.0	0.0 - 0.0
8	0.0 - 0.110	0.0 - 0.085
9	0.0 - 0.028	0.0 - 0.046
10	0.161 - 0.524	0.043 - 0.833
11	0.028 - 0.219	0.052 - 0.176
12	0.0 - 0.0	0.0 - 0.0
13	0.0 - 0.046	0.0 - 0.028
14	0.0 - 0.028	0.0 - 0.028
15	0.0 - 0.0	0.0 - 0.0
16	0.0 - 0.440	0.094 - 0.363
17	0.334 - 0.580	0.114 - 0.267
18	0.104 - 0.391	0.036 - 0.307
19	0.038 - 0.152	0.006 - 0.089
20	0.0 - 0.084	0.007 - 0.146
21	0.0 - 0.046	0.0 - 0.164
22	0.0 - 0.0	0.0 - 0.0
23	0.0 - 0.028	0.0 - 0.0
24	0.053 - 0.480	0.008 - 0.182
25	0.170 - 0.687	0.018 - 0.115
26	0.0 - 0.252	0.006 - 0.089

TABLE III A. COMPARISON OF AVERAGE VISIT RATES TO GROUPED CLINICS FOR FEMALE DEPENDENTS

AGE GROUP	CLINIC GROUP	VISITS BEFORE	VAR	VISITS AFTER	VAR	TEST STAT	SIGNIF
	FAMILY	0.0	0.0	4.094	13.866	0.0	
0 - 6	PRIMARY	4.375	14.391	0.844	2.132	6.950	X
	SPECIALTY	0.406	1.460	0.375	1.047	0.158	
	FAMILY	0.0	0.0	2.173	4.379	0.0	
7 - 15	PRIMARY	2.709	6.570	0.400	1.004	8.800	X
	SPECIALTY	0.909	4.028	0.736	2.994	0.684	
	FAMILY	0.0	0.0	4.875	20.248	0.0	
16 - 24	PRIMARY	2.025	13.012	0.944	3.164	3.546	X
	SPECIALTY	1.417	4.660	0.806	2.351	1.958	X
	FAMILY	0.0	0.0	6.604	23.373	0.0	
25 - 44	PRIMARY	4.799	18.575	1.299	3.770	9.482	X
	SPECIALTY	1.311	4.458	0.890	3.598	1.898	X
	FAMILY	0.0	0.0	6.667	24.306	0.0	
45 - 99	PRIMARY	4.875	15.901	1.167	3.556	8.237	X
	SPECIALTY	2.531	10.020	1.208	3.415	3.536	X

TABLE III B. COMPARISON OF AVERAGE VISIT RATES TO GROUPED CLINICS FOR MALE DEPENDENTS

AGE GROUP	CLINIC GROUP	VISITS BEFORE	VAR	VISITS AFTER	VAR	TEST STAT	SIGNIF
	FAMILY	0.0	0.0	4.701	15.197	0.0	
0 - 6	PRIMARY	3.688	16.578	1.182	2.876	4.987	X
	SPECIALTY	0.312	2.526	0.312	0.500	0.0	
	FAMILY	0.0	0.0	2.404	6.587	0.0	
7 - 15	PRIMARY	2.471	5.403	0.558	1.016	7.702	X
	SPECIALTY	1.010	2.356	0.596	1.491	2.150	X
	FAMILY	0.0	0.0	1.714	3.510	0.0	
16 - 24	PRIMARY	1.551	2.656	0.388	0.646	4.432	X
	SPECIALTY	1.082	5.504	0.816	1.783	0.688	

TABLE III C. COMPARISON OF AVERAGE VISIT RATES TO GROUPED CLINICS FOR MILITARY SPONSORS

AGE GROUP	CLINIC GROUP	VISITS BEFORE	VAR	VISITS AFTER	VAR	TEST STAT	SIGNIF
16 - 44	FAMILY	0.0	0.0	4.388	13.372	0.0	
	PRIMARY	1.522	4.817	0.299	0.508	4.341	X
	SPECIALTY	1.627	7.279	1.164	6.675	1.014	
45 - 99	FAMILY	0.0	0.0	5.552	23.523	0.0	
	PRIMARY	2.876	9.175	0.619	1.702	7.013	X
	SPECIALTY	2.429	10.131	1.610	7.533	1.997	X

TABLE IV A. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES TO GROUPED CLINICS FOR FEMALES

AGE GROUP	CLINIC GROUP	INTERVAL BEFORE			INTERVAL AFTER		
0 - 6	FAMILY	0.0	-	0.0	3.163	-	5.025
	PRIMARY	3.427	-	5.323	0.479	-	1.209
	SPECIALTY	0.104	-	0.708	0.119	-	0.631
7 - 15	FAMILY	0.0	-	0.0	1.776	-	2.570
	PRIMARY	2.223	-	3.195	0.210	-	0.590
	SPECIALTY	0.528	-	1.290	0.408	-	1.065
16 - 24	FAMILY	0.0	-	0.0	3.817	-	5.933
	PRIMARY	1.777	-	3.473	0.526	-	1.363
	SPECIALTY	0.909	-	1.924	0.445	-	1.166
25 - 44	FAMILY	0.0	-	0.0	5.858	-	7.349
	PRIMARY	4.134	-	5.463	0.999	-	1.598
	SPECIALTY	0.985	-	1.637	0.598	-	1.183
45 - 99	FAMILY	0.0	-	0.0	5.665	-	7.668
	PRIMARY	4.065	-	5.685	0.784	-	1.550
	SPECIALTY	1.888	-	3.174	0.833	-	1.584

TABLE IV B. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES TO GROUPED CLINICS FOR MALES

AGE GROUP	CLINIC GROUP	INTERVAL BEFORE	INTERVAL AFTER
0 - 6	FAMILY	0.0 - 0.0	3.815 - 5.588
	PRIMARY	2.763 - 4.614	0.796 - 1.567
	SPECIALTY	0.0 - 0.673	0.151 - 0.472
7 - 15	FAMILY	0.0 - 0.0	1.903 - 2.905
	PRIMARY	2.018 - 2.925	0.361 - 0.754
	SPECIALTY	0.710 - 1.309	0.358 - 0.834
16 - 24	FAMILY	0.0 - 0.0	1.176 - 2.252
	PRIMARY	1.083 - 2.019	0.157 - 0.618
	SPECIALTY	0.408 - 1.755	0.433 - 1.200

TABLE IV C. 95% CONFIDENCE INTERVALS FOR AVERAGE VISIT RATES TO GROUPED CLINICS FOR MILITARY SPONSORS

AGE GROUP	CLINIC GROUP	INTERVAL BEFORE	INTERVAL AFTER
16 - 44	FAMILY	0.0 - 0.0	3.495 - 5.282
	PRIMARY	0.986 - 2.059	0.124 - 0.473
	SPECIALTY	0.968 - 2.286	0.533 - 1.795
45 - 99	FAMILY	0.0 - 0.0	4.610 - 6.494
	PRIMARY	2.288 - 3.464	0.366 - 0.872
	SPECIALTY	1.810 - 3.047	1.076 - 2.143

APPENDIX B: CLINIC REFERRAL CHARTS

This appendix contains charts showing the number of patients referred from one clinic to another and the total number of visits for those referrals. The clinic with code #27 represents the non-referred visits to clinics. Totals for the referring clinics are also shown.

CHART I 1. REFERRALS FROM CLINIC 1 THROUGH 9 IN YEAR BEFORE

TO CLINIC		1	2	3	4	5	6	7	8	9
1	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
2	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
3	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
4	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
5	TIMES	0	0	8	3	0	0	0	0	0
	VISITS	0	0	17	7	0	0	0	0	0
6	TIMES	0	0	11	1	0	0	0	0	0
	VISITS	0	0	25	1	0	0	0	0	0
7	TIMES	0	0	1	1	0	0	0	0	0
	VISITS	0	0	5	2	0	0	0	0	0
8	TIMES	0	0	3	0	0	0	4	0	0
	VISITS	0	0	6	0	0	0	19	0	0
9	TIMES	0	0	2	0	0	0	1	0	0
	VISITS	0	0	2	0	0	0	1	0	0
10	TIMES	0	0	12	0	0	3	2	0	0
	VISITS	0	0	33	0	0	6	9	0	0
11	TIMES	0	0	12	4	0	0	7	2	0
	VISITS	0	0	26	10	0	0	8	2	0
12	TIMES	0	0	3	0	0	0	2	0	0
	VISITS	0	0	3	0	0	0	3	0	0
13	TIMES	0	0	4	0	1	0	2	0	0
	VISITS	0	0	8	0	1	0	2	0	0
14	TIMES	0	0	3	0	0	0	0	0	0
	VISITS	0	0	3	0	0	0	0	0	0
15	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
16	TIMES	0	0	4	1	0	1	1	0	0
	VISITS	0	0	7	3	0	6	1	0	0
17	TIMES	0	0	1	0	0	0	1	0	0
	VISITS	0	0	1	0	0	0	8	0	0
18	TIMES	0	1	12	8	0	0	6	0	0
	VISITS	0	1	17	21	0	0	9	0	0
19	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
20	TIMES	0	0	2	0	0	0	0	0	0
	VISITS	0	0	4	0	0	0	0	0	0
21	TIMES	0	0	2	1	0	0	1	0	0
	VISITS	0	0	3	3	0	0	1	0	0
22	TIMES	0	0	1	0	0	0	0	0	0
	VISITS	0	0	1	0	0	0	0	0	0
23	TIMES	0	0	2	1	0	0	1	0	0
	VISITS	0	0	2	1	0	0	1	0	0
24	TIMES	0	0	14	1	0	2	1	0	0
	VISITS	0	0	24	3	0	5	1	0	0
25	TIMES	0	0	7	0	1	1	2	0	0
	VISITS	0	0	17	0	3	1	3	0	0
26	TIMES	0	0	8	0	0	1	2	0	0
	VISITS	0	0	10	0	0	2	2	0	0
TOT	TIMES	0	1	112	21	2	8	33	2	0
TOT	VISIT	0	1	214	51	4	20	68	2	0

CHART I 2. REFERRALS FROM CLINIC 10 THROUGH 18 IN YEAR BEFORE

TO CLINIC		10	11	12	13	14	15	16	17	18
1	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
2	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
3	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
4	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
5	TIMES	1	0	0	0	0	0	1	0	0
	VISITS	1	0	0	0	0	0	2	0	0
6	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
7	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
8	TIMES	0	1	0	0	0	0	0	0	0
	VISITS	0	4	0	0	0	0	0	0	0
9	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
10	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
11	TIMES	0	0	0	0	0	1	0	0	0
	VISITS	0	0	0	0	0	1	0	0	0
12	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
13	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
14	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
15	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
16	TIMES	0	0	0	0	0	0	1	0	0
	VISITS	0	0	0	0	0	0	1	0	0
17	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
18	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	1
19	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
20	TIMES	0	0	0	0	0	0	0	0	4
	VISITS	0	0	0	0	0	0	0	0	6
21	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
22	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
23	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
24	TIMES	0	0	0	0	0	0	0	0	2
	VISITS	0	0	0	0	0	0	0	0	2
25	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
26	TIMES	1	1	0	1	0	0	0	0	0
	VISITS	1	1	0	1	0	0	0	0	0
TOT	TIMES	2	2	0	1	0	1	2	0	7
TOT	VISIT	2	5	0	1	0	1	3	0	9

CHART I 3. REFERRALS FROM CLINIC 19 THROUGH 26 IN YEAR BEFORE

TO CLINIC		19	20	21	22	23	24	25	26	27
1	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	2
2	TIMES	0	0	0	0	0	0	0	0	4
	VISITS	0	0	0	0	0	0	0	0	11
3	TIMES	0	0	0	0	0	0	0	0	520
	VISITS	0	0	0	0	0	0	0	0	1498
4	TIMES	0	0	0	0	0	0	0	0	279
	VISITS	0	0	0	0	0	0	0	0	443
5	TIMES	2	0	1	0	0	0	0	0	31
	VISITS	5	0	1	0	0	0	0	0	94
6	TIMES	0	0	0	0	1	0	0	0	170
	VISITS	0	0	0	0	1	0	0	0	352
7	TIMES	0	0	0	0	0	0	0	1	226
	VISITS	0	0	0	0	0	0	0	2	722
8	TIMES	0	0	0	0	0	0	0	0	20
	VISITS	0	0	0	0	0	0	0	0	49
9	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
10	TIMES	0	0	1	0	0	0	0	0	73
	VISITS	0	0	3	0	0	0	0	0	185
11	TIMES	2	0	1	0	0	0	0	0	35
	VISITS	5	0	1	0	0	0	0	0	65
12	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
13	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	1
14	TIMES	0	0	0	0	0	1	0	0	0
	VISITS	0	0	0	0	0	1	0	0	0
15	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
16	TIMES	1	0	0	0	0	0	0	0	33
	VISITS	1	0	0	0	0	0	0	0	71
17	TIMES	0	0	0	0	0	0	0	1	199
	VISITS	0	0	0	0	0	0	0	3	214
18	TIMES	1	0	0	0	0	1	0	4	39
	VISITS	3	0	0	0	0	2	0	6	90
19	TIMES	0	0	0	0	0	0	0	0	18
	VISITS	0	0	0	0	0	0	0	0	19
20	TIMES	0	0	0	0	0	0	0	0	8
	VISITS	0	0	0	0	0	0	0	0	8
21	TIMES	0	0	0	0	0	0	0	0	23
	VISITS	0	0	0	0	0	0	0	0	50
22	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	2
23	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	3
24	TIMES	1	0	0	0	0	0	0	2	24
	VISITS	1	0	0	0	0	0	0	4	49
25	TIMES	2	0	0	0	0	0	0	0	21
	VISITS	6	0	0	0	0	0	0	0	58
26	TIMES	1	0	0	0	0	1	0	0	28
	VISITS	1	0	0	0	0	1	0	0	65
TOT	TIMES	10	0	3	0	1	3	0	8	1755
TOT	VISIT	22	0	5	0	1	4	0	15	4051

```
CHART II 1.REFERRALS FROM CLINIC  1 THROUGH 9 IN YEAR AFTER

TO CLINIC          1    2    3    4    5    6    7    8    9
   1    TIMES      0    0    0    0    0    0    0    0    0
        VISITS     0    0    0    0    0    0    0    0    0
   2    TIMES      0    0    0    0    0    0    0    0    0
        VISITS     0    0    0    0    0    0    0    0    0
   3    TIMES      0    0    0    0    0    0    0    0    0
        VISITS     0    0    0    0    0    0    0    0    0
   4    TIMES      0    0    0    0    0    0    0    0    0
        VISITS     0    0    0    0    0    0    0    0    0
   5    TIMES      0    3    6    0    0    0    0    0    0
        VISITS     0    3   12    0    0    0    0    0    0
   6    TIMES      2   16    5    0    0    1    0    0    0
        VISITS     3   30    5    0    0    1    0    0    0
   7    TIMES      1    3    0    0    0    0    0    0    0
        VISITS     1    4    0    0    0    0    0    0    0
   8    TIMES      1    3    1    0    0    0    0    0    0
        VISITS     5    6    2    0    0    0    0    0    0
   9    TIMES      0    1    0    0    0    0    0    0    0
        VISITS     0    1    0    0    0    0    0    0    0
  10    TIMES      0   18    2    0    0    0    0    0    0
        VISITS     0   42    3    0    0    0    0    0    0
  11    TIMES      3   18    3    2    0    0    4    0    0
        VISITS     3   22    3    2    0    0    4    0    0
  12    TIMES      0    0    0    0    0    0    0    0    0
        VISITS     0    0    0    0    0    0    0    0    0
  13    TIMES      0    6    1    0    0    0    0    0    0
        VISITS     0    6    1    0    0    0    0    0    0
  14    TIMES      1    3    0    0    2    0    0    0    0
        VISITS     1    3    0    0    2    0    0    0    0
  15    TIMES      0    0    0    0    0    0    0    0    0
        VISITS     0    0    0    0    0    0    0    0    0
  16    TIMES      2   11    2    0    0    0    0    0    0
        VISITS     2   14    2    0    0    0    0    0    0
  17    TIMES      2    4    0    0    0    0    0    0    0
        VISITS    11    4    0    0    0    0    0    0    0
  18    TIMES      3   12    3    3    1    2    2    0    0
        VISITS    13   18    7    6    1    2    2    0    0
  19    TIMES      0    1    0    0    0    0    0    0    0
        VISITS     0    1    0    0    0    0    0    0    0
  20    TIMES      1    5    0    0    0    0    0    0    0
        VISITS     1    7    0    0    0    0    0    0    0
  21    TIMES      0    7    0    0    0    0    0    0    0
        VISITS     0    9    0    0    0    0    0    0    0
  22    TIMES      0    1    1    0    0    0    0    0    0
        VISITS     0    1    1    0    0    0    0    0    0
  23    TIMES      1    2    0    0    0    0    1    0    0
        VISITS     1    2    0    0    0    0    1    0    0
  24    TIMES      0   16    1    1    0    3    0    0    0
        VISITS     0   24    6    3    0    5    0    0    0
  25    TIMES      1   10    1    0    0    2    0    0    0
        VISITS     4   19    1    0    0    8    0    0    0
  26    TIMES      2    6    1    0    0    0    2    0    0
        VISITS     2   11    2    0    0    0    3    0    0
  TOT TIMES       20  146   27    6    3    8    9    0    0
  TOT VISIT       47  227   45   11    3   16   10    0    0
```

CHART IIC. REFERRALS FROM CLINIC 10 THROUGH 18 IN YEAR AFTER

TO CLINIC		10	11	12	13	14	15	16	17	18
1	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
2	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
3	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
4	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
5	TIMES	0	1	0	0	0	0	0	0	1
	VISITS	0	1	0	0	0	0	0	0	2
6	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
7	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
8	TIMES	0	1	0	0	0	0	0	0	0
	VISITS	0	1	0	0	0	0	0	0	0
9	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
10	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
11	TIMES	1	2	0	0	0	0	0	0	0
	VISITS	1	2	0	0	0	0	0	0	0
12	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
13	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
14	TIMES	0	0	0	1	0	0	0	0	0
	VISITS	0	0	0	1	0	0	0	0	0
15	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
16	TIMES	0	0	0	0	0	0	0	2	0
	VISITS	0	0	0	0	0	0	0	2	0
17	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
18	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
19	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
20	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
21	TIMES	1	0	0	0	0	0	0	0	0
	VISITS	7	0	0	0	0	0	0	0	0
22	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
23	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
24	TIMES	1	0	0	0	0	0	0	0	1
	VISITS	3	0	0	0	0	0	0	0	4
25	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
26	TIMES	0	0	0	1	0	0	0	0	1
	VISITS	0	0	0	1	0	0	0	0	1
TOT TIMES		3	4	0	2	0	0	0	2	3
TOT VISIT		11	4	0	2	0	0	0	2	7

CHART II3. REFERRALS FROM CLINIC 19 THROUGH 26 IN YEAR AFTER

TO CLINIC		19	20	21	22	23	24	25	26	27
1	TIMES	0	0	0	0	0	0	0	0	311
	VISITS	0	0	0	0	0	0	0	0	987
2	TIMES	0	0	0	0	0	0	0	0	777
	VISITS	0	0	0	0	0	0	0	0	3298
3	TIMES	0	0	0	0	0	0	0	0	141
	VISITS	0	0	0	0	0	0	0	0	207
4	TIMES	0	0	0	0	0	0	0	0	188
	VISITS	0	0	0	0	0	0	0	0	250
5	TIMES	0	0	0	2	0	0	1	0	22
	VISITS	0	0	0	2	0	0	1	0	37
6	TIMES	0	0	0	0	0	0	0	0	77
	VISITS	0	0	0	0	0	0	0	0	130
7	TIMES	0	0	0	0	0	0	0	0	45
	VISITS	0	0	0	0	0	0	0	0	91
8	TIMES	0	0	0	0	0	0	0	0	12
	VISITS	0	0	0	0	0	0	0	0	22
9	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	1
10	TIMES	0	0	0	0	0	0	0	0	50
	VISITS	0	0	0	0	0	0	0	0	117
11	TIMES	1	0	0	0	0	0	0	0	16
	VISITS	1	0	0	0	0	0	0	0	26
12	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
13	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	1
14	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
15	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
16	TIMES	1	0	0	0	0	0	0	0	21
	VISITS	2	0	0	0	0	0	0	0	37
17	TIMES	0	0	0	0	0	0	0	0	156
	VISITS	0	0	0	0	0	0	0	0	174
18	TIMES	0	0	0	0	0	0	0	1	19
	VISITS	0	0	0	0	0	0	0	1	40
19	TIMES	0	0	0	0	0	0	0	0	12
	VISITS	0	0	0	0	0	0	0	0	13
20	TIMES	0	0	0	0	0	0	0	0	15
	VISITS	0	0	0	0	0	0	0	0	21
21	TIMES	0	0	0	0	0	0	0	0	10
	VISITS	0	0	0	0	0	0	0	0	15
22	TIMES	0	0	0	0	0	0	0	0	1
	VISITS	0	0	0	0	0	0	0	0	1
23	TIMES	0	0	0	0	0	0	0	0	0
	VISITS	0	0	0	0	0	0	0	0	0
24	TIMES	0	0	0	0	0	0	1	1	9
	VISITS	0	0	0	0	0	0	1	1	15
25	TIMES	1	0	0	0	0	0	0	0	12
	VISITS	1	0	0	0	0	0	0	0	12
26	TIMES	0	0	0	0	0	0	0	0	14
	VISITS	0	0	0	0	0	0	0	0	16
TOT	TIMES	3	0	0	2	0	0	2	2	1910
TOT	VISIT	4	0	0	2	0	0	2	2	5511

APPENDIX C. BASELINE AND CHART REVIEW FORMS

This appendix contains the forms used in the collection of Baseline and chart review data. The first form is the questionnaire completed by each member of the Family Practice Clinic. The second form is the coding sheet used to transfer the appropriate data from the questionnaire to cards. The third form is the work sheet that was used when the chart review data was collected. The last form is the chart review data card input sheet.

FAMILY PRACTICE SERVICE
U.S. ARMY MEDICAL DEPARTMENT ACTIVITY (MEDDAC) FORT ORD
FORT ORD, CALIFORNIA 93941

YOU MAY OR MAY NOT HAVE BEEN SATISFIED WITH OUTPATIENT ARMY HEALTH CARE. THIS QUESTIONNAIRE CAN BE YOUR MEANS TO INFORM US HOW WE CAN IMPROVE YOUR MEDICAL CARE AND YOUR SATISFACTION WITH IT. YOUR COOPERATION WILL BE SINCERELY APPRECIATED.

THE INFORMATION YOU GIVE WILL BE TREATED AS "MEDICAL CONFIDENTIAL"; IT WILL NOT BE AVAILABLE TO ANYONE EXCEPT THOSE WHO ARE INTERESTED IN PROVIDING BETTER MEDICAL CARE FOR YOU AND YOUR FAMILY.

PLEASE RETURN THE COMPLETED QUESTIONNAIRE BY: ________________
YOU MAY USE THE ENCLOSED ENVELOPE OR BRING IT PERSONALLY TO:

PLEASE RETURN THIS COMPLETED QUESTIONNAIRE BY THE DATE INDICATED ABOVE OR WE WILL ASSUME THAT YOU ARE NO LONGER INTERESTED IN PARTICIPATING IN THE FAMILY PRACTICE PROGRAM.

SPONSOR INFORMATION

Today's Date__________________

Sponsor's Name:______________________________________ SSAN__________________
Last First MI

Present Marital Status: Never Married____ Married____ Divorced____
Widowed____ Separated____

Pay Grade (circle one): E-1 E-2 E-3 E-4 E-5 E-6 E-7 E-8 E-9

WO-1 CWO-2 CWO-3 CWO-4

0-1 0-2 0-3 0-4 0-5 0-6 0-7 0-8 0-9

Branch of Service (circle one): USA USN USAF USMC USCG Other

Sponsor's Date of Birth:______________ Sex____ Status: Active____ Retired____ Dec____
Day/Month/Year

Number of Eligible Dependents: Spouse______ Children____ Other______

If family is living in the Ft Ord area, including cities on the Peninsula, what is the estimated date of departure?
Departure Date__________________

Duty or Business Address______________________________ Phone__________________

Home Address______________________________ Phone__________________

FAMILY INFORMATION

Spouse's Name:______________________________________
Last First MI

Living in Ft Ord area (including cities on the Peninsula)?
Yes____ No____

Sex:____ Date of Birth(DOB):______________
Day/Month/Year

Children's Names(oldest to youngest): SPECIFY LAST NAME IF DIFFERENT FROM PARENTS

______________________________ Living in Ft Ord area?____Sex____DOB______________
First MI (including cities on peninsula) Day/Month/Year

______________________________ Living in Ft Ord area?____Sex____DOB______________
(including cities on peninsula) Day/Month/Year

______________________________ Living in Ft Ord area?____Sex____DOB______________
(including cities on peninsula) Day/Month/Year

______________________________ Living in Ft Ord area?____Sex____DOB______________
(including cities on peninsula) Day/Month/Year

______________________________ Living in Ft Ord area?____Sex____DOB______________
(including cities on peninsula) Day/Month/Year

(USE REVERSE SIDE IF NECESSARY)

OTHER ELIGIBLE DEPENDENTS:

________________________________ Living in Ft Ord area? ____ Sex ___ DOBD ________
Name   Relationship (Including cities on Peninsula)   Day/Mo/Yr
(
________________________________ Living in Ft Ord area? ____ Sex ___ DOB ________
Name   Relationship (Including cities on Peninsula)   Day/Mo/Yr

THE FOLLOWING INFORMATION WILL BE USED ONLY TO DESCRIBE THE POPULATION SERVED AND TO GET YOUR VIEWS TO ADD IN OUR PLANNING TO BETTER SERVE YOUR HEALTH CARE NEEDS.

NOTE: THE FOLLOWING INFORMATION PERTAINS TO THE SPONSOR.

1. Sponsor's race or ethnic group:

____White (Caucasian)

____Black

____Mexican-American

____Puerto Rican

____American Indian

____Chinese American

____Japanese American

____Not Above; Please Specify________________

2. Sponsor's religious preference:

____Protestant

____Catholic

____Jewish

____Not Above; Please Specify____________________

____None

3. What is the highest level of formal civilian education the sponsor has Completed?

____Eight years or less

____Some high school but did not graduate

____High school graduate

____Two years college or less with no degree

____Associate Degree

____More than two years college but no degree

____Bachelors Degree (other than LLB)

____LLB, JD, or equivalent

____Masters Degree

____Earned Doctorate (PhD, MD, etc.)

4. How long has Sponsor been at Ft Ord this tour?

____0-2 months
____3-5 Months
____6-8 months
____9-11 months
____12-14 months
____15-17 months
____18-20 months
____21-23 months
____24-26 months
____27-30 months
____More than 30 months

5.
5. How many years of total active federal military service has sponsor completed?

____Less than 6 months
____At least 6 months but less than 2 years
____At least 2 years but less than 4 years
____At least 4 years but less than 8 years
____At least 8 years but less than 12 years
____At least 12 years but less than 16 years
____At least 16 years but less than 20 years
________At least 20 years

6. Does the sponsor intend to make the military a career?

____Definitely No
____Probably No
____Undecided
____Probably Yes
____Definitely Yes
____Not Appricable (Retired, Deceased, etc.)

7. S

IF YOU DO NOT HAVE A SPOUSE AT THE PRESENT TIME

SKIP THE NEXT PAGE (Page 4)

NOTE: THIS PAGE PERTAINS ONLY TO THE SPOUSE. IF YOU ARE NOT MARRIED GO TO PAGE 5

7. Spouse's age:

____Less than 20 years old

____20-24 years old

____25-29 years old

____30-34 years old

____35-39 years old

____40-44 years old

____45-49 years old

____50-54 years old

____55 years or more

8. Highest level of formal civilian education spouse has completed:

____Eight years or less

____Some high school but did not graduate

____High school graduate

____Two years of college or less with no degree

____Associate Degree

____More than two years of college but no degree

____Bachelors Degree (other than LLB)

____LLB, JD or equivalent

____Masters Degree

____Earned Doctorate (PhD, MD, etc.)

9. Spouse's race or ethnic group:

____White (Caucasian)

____Black

____Mexican-American

____Puerto Rican

____American Indian

____Chinese American

____Japanese American

____Not Above; Please
Specify____________________

10. Spouse's religious preference:

____Protestant

____Catholic

____Jewish

____Not Above; Please
Specify____________________

____None

ARMY MEDICAL CLINIC UTILIZATION

11. Sponsor's utilization of Army Clinics for out patient care during the past 12 months. (Other than routine physical exams and immunizations):

____Never during the past year

____Once

____Twice

____3 times

____4 times

____5-9 times

____10-14 times

____15-19 times

____More than 19 times

12. Spouse's utilization of Army Clinics for outpatient care during the past 12 months. (Include all visits for any purpose):

____Never during the past year

____Once

____Twice

____3 times

____4 times

____5-9 times

____10-14 times

____15-19 times

____More than 19 times

____Not Applicable; I have no spouse

13. Eligible children's combined total number of visits to Army Clinics for outpatient care during the past 12 months. (Include all visits for any purpose)

____Never during the past year

____Once

____Twice

____3 times

____4 times

____5-9 times

____10-14 times

____15-19 times

____More than 19 times

____Not applicable; I have no eligible children.

CIVILIAN MEDICAL CLINIC UTILIZATION

14. Sponsor's utilization of civilian medical facilities for outpatient care during the past 12 months:

____Never during the past year

____Once

____Twice

____3 times

____4 times

____5-9 times

____10-14 times

____15-19 times

____More than 19 times

15. Spouse's utilization of civilian medical facilities for outpatient care during the past 12 months:

____Never during the past year

____Once

____Twice

____3 times

____4 times

____5-9 times

____10-14 times

____15-19 times

____More than 19 times

____Not applicable; I have no spouse

16. Eligible children's combined total number of visits to civilian medical facilities for outpatient care during the past 12 months:

____Never during the past year

____Once

____Twice

____3 times

____4 times

____5-9 times

____10-14 times

____15-19 times

____More than 19 times

____Not applicable; I have no eligible children.

17. The following items are to help us determine the Sponsor's satisfaction with outpatient Army Health Care at Silas B. Hays Army Hospital, Ft Ord (Check the one box that best describes your feelings).

WHAT HAS BEEN SPONSOR'S SATISFACTION IN TERMS OF:

	Completely Dissatisfied	Mostly Dissatisfied	Neutral/ Undecided	Mostly Satisfied	Completely Satisfied	NO CONTACTS
1. Doctor's interest in your problem						
2. Nurse's interest in your problem						
3. Courteous treatment by doctors						
4. Courteous treatment by nurses						
5. Courteous treatment by receptionist						
6. Quality of health care						
7. Waiting time in the General Medical Clinic (Do not write times)						
8. Convenience of location of the General Medical Clinic						
9. Convenience of operating hours of the General Medical Clinic						
10. Adequacy of the General Medical Clinic's physical facilities (seating, comfort, decor) in general						
11. Adequacy of information given to you about your medical problem by doctor						
12. Adequacy of information given to you about your medical problem by nurse						
13. Continuity of health care provided						
14. Laboratory services provided by the hospital facility						
15. Pharmacy services provided by the hospital facility						
16. X-Ray services provided by the hospital facilitye						

18. The following items are to help us determine the Spouse's satisfaction with outpatient Army Health Care at Silas B. Hays Army Hospital, Ft Ord (Check the one box that best describes your feelings).

WHAT HAS BEEN SPOUSE'S SATISFACTION IN TERMS OF:

	Completely Dissatisfied	Mostly Dissatisfied	Neutral/ Undecided	Mostly Satisfied	Completely Satisfied	NO CONTACTS
1. Doctors interest in your problem	☐	☐	☐	☐	☐	☐
2. Nurse's interest in your problem	☐	☐	☐	☐	☐	☐
3. Courteous treatment by doctors	☐	☐	☐	☐	☐	☐
4. Courteous treatment by nurses	☐	☐	☐	☐	☐	☐
5. Courteous treatment by receptionist	☐	☐	☐	☐	☐	☐
6. Quality of health care	☐	☐	☐	☐	☐	☐
7. Waiting time in the General Medical Clinic (Do not write times)	☐	☐	☐	☐	☐	☐
8. Convenience of location of the General Medical Clinic	☐	☐	☐	☐	☐	☐
9. Convenience of operating hours of the General Medical Clinic	☐	☐	☐	☐	☐	☐
10. Adequacy of the General Medical Clinic's physical facilities (seating, comfort, decor) in general	☐	☐	☐	☐	☐	☐
11. Adequacy of information given to you about your medical problem by doctor	☐	☐	☐	☐	☐	☐
12. Adequacy of information given to you about your medical problem by nurse	☐	☐	☐	☐	☐	☐
13. Continuity of health care provided	☐	☐	☐	☐	☐	☐
14. Laboratory services provided by the hospital facility	☐	☐	☐	☐	☐	☐
15. Pharmacy services provided by the hospital facility	☐	☐	☐	☐	☐	☐
16. X-Ray services provided by the hospital facility	☐	☐	☐	☐	☐	☐

19. The following space is for you to make any further comments you desire:

PLEASE RETURN THIS COMPLETED QUESTIONNAIRE BY THE INDICATED DATE. YOU MAY USE THE ENCLOSED ENVELOPE OR BRING IT PERSONALLY TO:

THANK YOU FOR YOUR COOPERATION.

BASELINE CODING SHEET

_ _ _ _ _ _ _ _ _ Sponsor's SSAN

_____ Marital Status
1 Never Married
2 Married
3 Divorced
4 Widowed
5 Separated

_____ Pay Grade
11 E-1
12 E-2
13 E-3
14 E-4
15 E-5
16 E-6
17 E-7
18 E-8
19 E-9
21 WO-1
22 CWO-2
23 CWO-3
24 CWO-4
31 O-1
32 O-2
33 O-3
34 O-4
35 O-5
36 O-6
37 O-7
38 O-8
39 O-9

_____ Branch of Service
1 USA
2 USN
3 USAF
4 USMC
5 USCG
6 Other

_____ Sponsor's Year of Birth

_____ Sponsor's Sex: 1 Male 2 Female

_____ Military Status: 1 Active Duty 2 Retired 3 Deceased

_____ Number of Children

_____ Number of Other Dependents

_____ Estimated Month and Year of Departure from Ft Ord

_____ City of Residence
11 Ft Ord
12 Monterey
13 Seaside
14 Pacific Gr.
15 Marina
16 Carmel
17 Carmel Val.
18 Pebble Bea.
19 Salinas
20 Watsonville
21 Castroville
22 Other

_____ Spouse's Sex: 1 Male 2 Female

_____ Spouse's Year of Birth

_____ Number of Dependents in the Ft Ord Area

_____ Sponsor's Race
11 White
12 Black
13 Mex-Am
14 Puerto Rican
15 Am. Indian
16 Chinese Am.
17 Japanese Am.
18 None of the Above

_____ Sponsor's Religion
11 Protestant
12 Catholic
13 Jewish
14 Other
15 None

_____ Sponsor's Education
11 8 yrs or less
12 Some H S.
13 H S Graduate
14 2 yrs college
15 Associate Deg.
16 More than 2 yrs coll.
17 Bachelors Degree
18 LLB, JD
19 Masters Degree
20 Doctorate

_____ Sponsor's Months at Ft Ord
11 0-2 mos
12 3-5 mos
13 6-8 mos
14 9-11 mos
15 12-14 mos
16 15-17 mos
17 18-20 mos
18 21-23 mos
19 24-26 mos
20 27-29 mos
21 more than 30 mos

_____ Sponsor's Total Military Service
11 < 6 mos
12 > 6 mos, < 2 yrs
13 > 2 yrs, < 4 yrs
14 > 4 yrs, < 8 yrs
15 > 8 yrs, < 12 yrs
16 > 12 yrs, < 16 yrs
17 > 16 yrs, < 20 yrs
18 More than 20 yrs

_____ Military Career
11 Definitely NO
12 Probably NO
13 Undecided
14 Probably YES
15 Definitely YES
16 Not Applicable

HF 10:5101, 6 Aug 75

BASELINE CODING SHEET (page 2)

_____ Spouse's Education
11 8 yrs or less
12 Some H.S.
13 H S Graduate
14 2 yrs college
15 Associate Deg.
16 More than 2 yrs college
17 Bachelors Degree
18 LLB, JD
19 Masters Degree
20 Doctorate

_____ Spouse's Race
11 White
12 Black
13 Mex-Am
14 Puerto Rican
15 Am. Indian
16 Chinese-Am.
17 Japanese American
18 None of the Above

_____ Spouse's Religion
11 Protestant
12 Catholic
13 Jewish
14 Other
15 None

_____ Sponsor's Utilization of Army Clinics
11 Never
12 Once
13 Twice
14 3 times
15 4 times
16 5-9 times
17 10-14 times
18 15-19 times
19 More than 19 times

_____ Spouse's Utilization of Army Clinics
11 Never
12 Once
13 Twice
14 3 times
15 4 times
16 5-9 times
17 10-14 times
18 15-19 times
19 More than 19 times
20 Not Applicable

_____ Eligible Children's Visits to Army Clinics

_____ Sponsor's Utilization of Civilian Medical Facilities

_____ Spouse's Utilization of Civilian Medical Facilities

_____ Eligible Children's Total Visits to Civilian Medical Facilities

_____ Code for Other Dependent
40 Mother
45 Father
50 Mother-in-Law
55 Father-in-Law
60 Other

_____ Sex of Other Dependent
1 Male 2 Female

_____ Other Dependents Year of Birth

_____ Child's Sex: 1 Male 2 Female

_____ 1st Child's Year of Birth

_____ 2nd Child's Sex

_____ 2nd Child's Year of Birth

_____ 3rd Child's Sex

_____ 3rd Child's Year of Birth

_____ 4th Child's Sex

_____ 4th Child's Year of Birth

_____ 5th Child's Sex

_____ 5th Child's Year of Birth

_____ 6th Child's Sex

_____ 6th Child's Year of Birth

_____ 7th Child's Sex

_____ 7th Child's Year of Birth

_____ 8th Child's Sex

_____ 8th Child's Year of Birth

_____ 9th Child's Sex

_____ 9th Child's Year of Birth

_____ 10th Child's Sex

_____ 10th Child's Year of Birth

CHART REVIEW INPUT SHEET

SSAN (with prefix)											Acceptance Date				First FP Visit			
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Y	Y	M	M	Y	Y	M	M
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Columns 1 – 19 are the same for all cards

1st Card (20 – 74)	2nd Card (20 – 74)	3rd Card (20 – 74)
☐ Card Code 20	☐ Card Code 20	☐ Card Code 20
☐☐☐☐☐☐ FROM TO AMOUNT	☐☐☐☐☐☐ FROM TO AMOUNT	☐☐☐☐☐☐ FROM TO AMOUNT
☐☐☐☐☐☐ 27	☐☐☐☐☐☐ 27	☐☐☐☐☐☐ 27
☐☐☐☐☐☐ 33	☐☐☐☐☐☐ 33	☐☐☐☐☐☐ 33
☐☐☐☐☐☐ 39	☐☐☐☐☐☐ 39	☐☐☐☐☐☐ 39
☐☐☐☐☐☐ 45	☐☐☐☐☐☐ 45	☐☐☐☐☐☐ 45
☐☐☐☐☐☐ 51	☐☐☐☐☐☐ 51	☐☐☐☐☐☐ 51
☐☐☐☐☐☐ 57	☐☐☐☐☐☐ 57	☐☐☐☐☐☐ 57
☐☐☐☐☐☐ 63	☐☐☐☐☐☐ 63	☐☐☐☐☐☐ 63
☐☐☐☐☐☐ 69	☐☐☐☐☐☐ 69	☐☐☐☐☐☐ 69

If the clinic visit(s) is(are) made without being referred from another clinic, the FROM columns (21+22, 27+28, etc) should be coded as 99.

Card Code → 1 = year prior 2 = Transition 3 = FP year

LIST OF REFERENCES

1. Eschen, Thomas B., M.D., Family Practice Models for an Army Community: A Demonstration Project, draft report to be published as a dissertation by Doctor Eschen, September 1975.

2. Revell, Joseph E., "The Family Doctor Returns," The Time Magazine, p. 5-10, 16, 26 March 1975.

3. Parrish, M.M. and Paek, S.J., Development of a Long-Term Process for Collection of Doctor-Patient Encounter Data in an Ambulatory Care Facility, Masters Thesis, U.S. Naval Postgraduate School, Monterey, Ca., 1974.

4. Dixon, W.J. and Massey, F.J., Introduction to Statistical Analysis, 3d ed., P. 1119, McGraw-Hill Book Company, 1969.

5. Naval Postgraduate School, Planning and Evaluation of a Family Practice Clinic, by Richard W. Butterworth, August 1974.

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